Calculus 1 Workbook

Definition of the derivative

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MATH

DIFFERENCE QUOTIENT

- 1. Evaluate the difference quotient for $f(x) = -9x + 10$ at $x = -6$.

- 2. Evaluate the difference quotient for $g(x) = -10x^2 + 7$ at $x = 3$.

- 3. Evaluate the difference quotient for $h(x) = 2x^3 + 5x$ at $x = -2$.

- 4. Evaluate the difference quotient for $f(x) = 5x^2 - 6x$ at $x = 4$.

- 5. Evaluate the difference quotient for $g(x) = 9x^2 + 3x$ at $x = -1$.

- 6. Evaluate the difference quotient for $h(x) = -2x^2 + 8x - 4$ at $x = 1$.

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DEFINITION OF THE DERIVATIVE

■ 1. Use the definition of the derivative to find the derivative of $f(x) = 2x^2 + 2x - 12$ at $(4,28)$.

■ 2. Use the definition of the derivative to find the derivative of $g(x) = 3x^3 - 4x + 7$ at $(-2, -9)$.

■ 3. Use the definition of the derivative to find the derivative of $h(x) = 9x^2 - 7x - 4$ at $(2,18)$.

■ 4. Use the definition of the derivative to find the derivative of $h(x) = 8x^2 - 19x + 15$ at $(2,9)$.

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